# THE APHID GENUS KAKIMIA IN CALIFORNIA

BY W. W. SAMPSON
*University of California*

## Genus KAKIMIA Hottes and Frison

Kakimia, Hottes and Frison, 1931, Ill. Nat. Hist. Surv. Bull., XIX:344 (*Subgenus*).

Kakimia, Gillette and Palmer, 1934, Ann. Ent. Soc. Am., XXVII:159.

Vertex convex with frontal tubercles small, hardly exceeding the vertex, aphis-like; antennæ with six segments, at least as long as body, with secondary sensoria subcircular and tuberculate; hairs usually capitate, and equal in length to diameter of the member bearing them; cornicles subvasiform to cylindrical; cauda medium sized, slightly constricted, sometimes tapering, aphis-like; lateral tubercles present; media twice-branched in the fore-wings; media and cubitus present in hind-wings.

Genotype *Myzus thomasi* Hottes and Frison.

## KEY TO THE CALIFORNIA SPECIES

1. Cornicles dusky.....2
–. Cornicles pale.....4
2. No sensoria on third antennal segment of apteræ....*mimulicola*
–. Sensoria on third antennal segment of apteræ.....3
3. Unguis longer than third antennal segment.....*cynosbati*
–. Unguis shorter than third antennal segment.....*ribifolii*
4. Legs pale; abdomen of alatæ with irregular markings on dorsum .....*essigi*
–. Legs with at least tips dark; abdomen of alatæ with few markings on dorsum.....*castelleiæ*, n. sp.

## Kakimia castelleiæ Sampson, new species

Alate viviparous female: Somewhat small, not robust, of yellowish green color; abdomen of uniform light green color, cornicles, cauda, and anal plate of lighter color; antennæ slightly dusky, tarsi and tip of tibiæ darker; antennæ longer than body, sparsely to moderately haired; combined length of thorax and abdomen equal to that of the tibiæ of the hind legs; tibiæ of all legs hairy toward the apices, rest of the leg-parts only slightly so. Abdominal tubercles present.

Average length of body: 1.87 mm.; width, .78 mm. Average lengths of antennal segments: I, .085 mm.; II, .064 mm.; III, .61 mm.; IV, .30 mm.; V, .29 mm.; VI, base, .1 mm., unguis, .71 mm., total, .81 mm. Length of cornicles: .16 mm.; of cauda, .19 mm.; of rostrum, .60 mm., reaching just to posterior edge of second pair of coxæ; from 27 to 36 secondary sensoria on third antennal segment, with an average of 30; on fourth antennal segment, 8 to

16, with an average of 10; on segment five, 0 to 2, with an average of one. Length of fore-wings: 2.7 mm.; of hind-wings, 1.5 mm.

Apterous viviparous female: More robust than alate form, body a light yellow green; top of abdomen sometimes with bands of light brown. Antennæ dusky from tips of fourth antennal segment outward. Cornicles duskier than in alate forms. Tarsi and tips of tibiæ dark. Rostrum reaches to middle of third pair of coxæ.

Length of body: 1.98 mm.; width, 1.00 mm. Average length of antennal segments: I, .085 mm.; II, .069 mm.; III, .50 mm.; IV, .22 mm.; V, .69 mm.; VI, base, .085 mm., unguis, .60 mm., total, .685 mm. Length of cornicles, .19 mm.; of cauda, .17 mm.; of rostrum, .50 mm. From 17 to 25 secondary sensoria on antennal III, with an average of 20; on antennal IV, 0 to 5, with an average of one; there are no sensoria on antennal V.

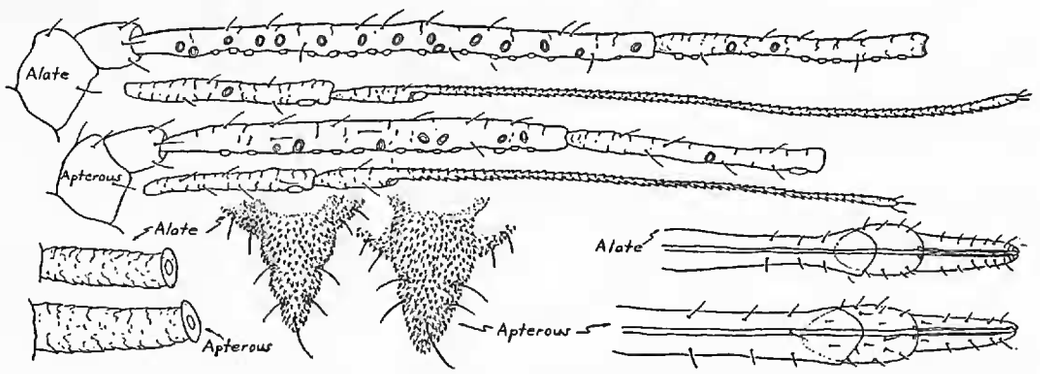


Fig. 1. *Kakimia castelleiæ* Sampson

There seems to be very little variation in size or color. In the antennæ of both forms the lengths closely approach the averages given above.

This species seems to be close to *K. thomasi* H. and F., differing in the lengths of the unguis in relation to the length of the third antennal segment, as well as in the number of sensoria on the segments; very few markings are present on the apterous forms of the new species, while there are many on those of *K. thomasi*; the host plants of the two differ also. It also comes near *K. cynosbati* (Oest.), the latter having the tips of the legs pale, and bands on the dorsum; there are no sensoria on antennal segments four and five.

This species is described from eight slides of specimens which were collected at Point Reyes Peninsula, Marin County, California, April 13, 1936, by Professor E. O. Essig, E. W. Baker, and the author, on *Castelleia neglecta.*

Holotype, collected by the author at the location cited, in the collection of the California Academy of Sciences (type No.

4616). Paratypes, collected by E. O. Essig, E. W. Baker, and the author, in the collections of these persons.

KAKIMIA CYNOSBATI (Oest.)

Oestland, 1887, Minn. Geol. and Nat. Hist. Surv., Bull. IV:81.
Swain, 1919, Univ. Calif. Pub. Ent. III:75.
Gillette and Palmer, 1934, Ann. Ent. Soc. Am., XXVII:162.

This species is seldom taken; the apparently last collection was by Paul S. Bartholomew, December 22, 1932, on the campus of Stanford University. As identified by Professor Essig, there was one alate and one apterous form.

KAKIMIA ESSIGI (Gillette and Palmer)

Essig, 1917, Univ. Calif. Pub. Ent., I:314, (*Myzus aquilegiæ*).
Swain, 1919, Univ. Calif. Pub. Ent., III:73, (*Myzus aquilegiæ*).
Gillette and Palmer, 1929, Ann. Ent. Soc. Am., XXII:30.
Gillette and Palmer, 1934, Ann. Ent. Soc. Am., XXVII:163.

This species is rather common throughout the state on *Aquilegia*, especially in the spring and summer.

KAKIMIA MIMULICOLA Drews and Sampson

Drews and Sampson, 1937, Pomona Journal Zool. and Ent., XXIX:29.

This aphid was first taken in Marin County. It has since been taken in Berkeley, California, by Essig (Oct. 4, 1937), and Sampson (Oct. 6, 1937); the latter also took it at Half Moon Bay (Jan. 16, 1938).

KAKIMIA RIBIFOLII (Dvdn.) (new combination)

Davidson, 1917, Journal Econ. Ent., X;294, (*Myzus*).
Swain, 1919, Univ. Calif. Pub. Ent., III:76, (*Myzus*).

Examination of this species, which was taken in fair numbers on *Ribes glutinosum*, on Strawberry Creek, University of California, during April and May of 1937, has convinced the writer that the species belongs in this genus rather than in *Myzus*.

KAKIMIA HOUGHTONENSIS (Troop)

Troop, 1906, Ent. News, XVII:59, (*Aphis*).
Swain, 1919, Univ. Calif. Pub. Ent., III:107, (*Aphis*).
Gillette and Palmer, 1934, Ann. Ent. Soc. Am., XXVII:164.

This species has never been found since the provisional identification by Davidson of an *Aphis* as this species. It was found on currant, and is mentioned here in hope that it will again be found and reported.